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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/865,877	05/25/2001	Roy Daron Cideciyan	ROC920010065US1	5119

7590 07/30/2004
Joan Pennington
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Chicago, IL 60611

EXAMINER

ZHENG, EVA Y

ART UNIT	PAPER NUMBER
2634	4

DATE MAILED: 07/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/865,877

Applicant(s)

CIDECIYAN ET AL.

Examiner

Eva Yi Zheng

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,16 and 17 is/are rejected.
- 7) ☒ Claim(s) 2,4-15 and 18-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 16 is objected to because of the following informalities:
 - a) On line 2, phrase: "recited in claim 16" should be changed to --recited in claim 1--
 - b) On line 2-3, phrase: "said word sync pattern" should be changed to --said predefined word synchronization pattern--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 16 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Sobey (5,856,986).
 - a) Regarding claim 1, Sobey discloses apparatus for word synchronization with large coding distance and fault tolerance for a partial-response maximum-likelihood (PRML) data channel in a direct access storage device (DASD) comprising:
 - a Viterbi detector (Fig. 17) for receiving equalized PR4 samples including a predefined word synchronization pattern; said Viterbi detector being optimized for said

Art Unit: 2634

predefined word synchronization pattern (as shown in Fig. 1); said Viterbi detector including

a two-state Viterbi trellis (Col 3, L 53-59); and

a word synchronization detector for said two-state Viterbi trellis (Fig. 3a).

b) Regarding claim 3, Sobey discloses apparatus for word synchronization with large coding distance and fault tolerance as recited in claim 1 wherein said predefined word synchronization pattern includes multiple pattern match sequences (as shown in Fig. 4a).

c) Regarding claim 16, Sobey discloses apparatus for word synchronization with large coding distance and fault tolerance as recited in claim 16 wherein said word sync pattern compare function identifies at least a predefined subset of said multiple pattern match sequences and generates a start of data trigger for the partial response maximum-likelihood (PRML) data channel (Col 3, L53-55).

d) Regarding claim 17, Sobey discloses a method for word synchronization with large coding distance and fault tolerance for a partial-response maximum-likelihood (PRML) data channel in a direct access storage device (DASD) comprising the steps of:

sensing a readback signal including a predefined word synchronization pattern (Fig. 1); said predefined word synchronization pattern including multiple pattern match sequences (Fig. 3a);

providing a dedicated Viterbi detector (Fig. 17) optimized for said predefined word synchronization pattern and said Viterbi detector including a two-state Viterbi trellis (Col 3, L 53-59) and a word

synchronization detector for said two-state Viterbi trellis (Fig. 3a);

applying equalized PR4 samples from said readback signal including said predefined word synchronization pattern to said dedicated Viterbi detector (Fig. 17);

detecting a predefined number of said multiple pattern match sequences of said predefined word synchronization pattern with said Viterbi detector (Fig. 4a); and

generating a start of data trigger for the partial-response maximum likelihood (PRML) data channel (Col 3, L53-55).

Allowable Subject Matter

3. Claims 2, 4-15, 18-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eva Yi Zheng whose telephone number is 703-305-8699. The examiner can normally be reached on 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-879-9306.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Art Unit: 2634

Washington, D.C. 20231

or faxed to:


(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

July 12, 2004

Eva Yi Zheng
Examiner
Art Unit 2634


SHUWANG LIU
PRIMARY EXAMINER